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ABSTRACT

Through Senate Bill 1202 (Chapter 1038; Hart, Statutes of 1989), the California Legislature directed the California Postsecondary Education Commission to develop a state policy statement on the use of distance learning technology in education, "to be considered and, if appropriate, adopted by the Legislature." Other issues to be addressed by the Commission were also specified by the Legislature, including funding and management of intersegmental distance learning efforts, course credit transfer, qualifications and credentialing of instructors and onsite personnel, and ensuring course quality. The Commission was also asked to compile research on the effectiveness and cost-effectiveness of distance education at the various levels. This report presents the Commission's response to the legislative charge. It reviews the potential of distance learning technology in meeting the state's education needs, summarizes the conclusions of the literature assessing the effectiveness of distance learning, and identifies the barriers to expanded use of this technology. The Commission then proposes both a state policy and the steps needed to implement it. A copy of Senate Bill 1202 is appended. (16 references) (DB)

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STATE POLICY ON TECHNOLOGY FOR DISTANCE LEARNING

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Summary

Through Senate Bill 1202 (Hart; Chapter 1038, Statutes of 1989), the California Legislature directed the California Postsecondary Education Commission to develop a State policy statement on the use of distance learning technology in education, with the statement "to be considered and, if appropriate, adopted by the Legislature." The Legislature also specified that, in developing the statement, the Commission should "address issues of funding and management of intersegmental distance learning efforts, course credit transfer, qualifications and credentialing of instructors and onsite personnel, ensuring course quality, and other policy issues associated with distance education, as well as compile research on the effectiveness and cost-effectiveness of distance instruction at various levels of education."

In this report, the Commission responds to that legislative charge. On pages 1-12, it reviews the potential of distance learning technology in meeting the State's education needs, summarizes the conclusions of the literature assessing the effectiveness of distance learning, and identifies the barriers to expanded use of this technology. On pages 13-15, the Commission then propose both a State policy and the steps needed to implement it.

The Commission adopted this report at its meeting on April 28, 1991, on recommendation of its Policy Development Committee. Additional copies of the report may be obtained from the Publications Office of the Commission at (916) 324-4991. Questions about the substance of the report may be directed to Bruce D. Hamlett of the Commission staff at (916) 322-8010 or to Maria Chacon of the staff at (916)322-8005.

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STATE POLICY ON TECHNOLOGY FOR DISTANCE LEARNING

Recommendations to the Legislature and the Governor in Response to Senate Bill 1202 (Chapter 1038, Statutes of 1989)

CALIFORNIA POSTSECONDARY EDUCATION COMMISSION
Third Floor • 1020 Twelfth Street • Sacramento, California 95814-3985

COMMISSION REPORT 91-7
PUBLISHED APRIL 1991

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Contents

Background for the Proposals 1

The Meaning of "Distance Learning" 1

California Distance Learning Projects 2

National Distance Learning Projects 3

Developments in Statewide Planning for Distance Learning 6

Planning Efforts in California 7

The Potential for Distance Learning 9

The Effectiveness of Distance Learning 10

Barriers to the Expanded Use of Distance Learning in California 11

Proposed Policy and Its Implementation 13

A Proposed Policy Statement on Distance Learning 13

Recommended Steps to Implement the Policy 14

Appendix: Senate Bill 1202 (1989) 17

References 23

Background for the Proposals

IN ITS SEPTEMBER 1989 report, *Technology and the Future of Education: Directions for Progress*, the California Postsecondary Education Commission recommended that "no student in the State, because of location or lack of teachers, be denied access to high quality instruction in a full range of subject areas. To ensure equity of access, greater use should be made of the delivery of instruction to off-site locations that technology allows."

Consistent with this recommendation, through Senate Bill 1202 (Chapter 1038; Hart) of 1989, the Legislature directed the Commission to develop a policy statement on the use of distance learning technology in education, with the policy to be considered and, if appropriate, adopted by the Legislature. (A copy of SB 1202 is attached as the appendix to this report.)

The Legislature specified that in developing the policy statement, the Commission should consider "issues of funding and management of intersegmental distance learning efforts, course credit transfer, qualifications and credentialing of instructors and on-site personnel, ensuring course quality, and other policy issues associated with distance education, as well as compile research on the effectiveness and cost-effectiveness of distance instruction at various levels of education." In addition, it directed the Commission to propose a strategy to deliver instruction over distance and link together school and college classrooms in rural and inner-city areas in the State, with an emphases on these five types of educational services:

1. Curriculum enhancement to meet the needs of high-risk pupils who would otherwise be likely to drop out of traditional classroom programs.
2. Expanded course offerings, in subjects that include, but are not limited to, foreign languages, science, and mathematics, to rural and inner-city secondary schools that are unable to provide the college preparatory and enrichment courses that their pupils require and that other schools provide.
3. Expanded course offerings at rural community colleges and off-campus centers to better serve students in remote parts of the State. These expanded offerings should include university-level courses to better serve community college students who are considering a university-level education but do not have the financial resources to transfer.
4. Staff development courses for elementary and secondary school teachers who might otherwise be unable to participate in these training opportunities.
5. Curriculum enhancement through the increased communication capability of schools, colleges, and universities providing the opportunity for institutions to receive varied types of supplementary educational programs, conduct exchanges with business, industry, and government, participate in live lectures and conferences on special topics, and increase cooperation and communication among educational institutions.

In this report, the Commission explains what is meant by "distance learning," summarizes existing distance learning projects and statewide planning both in California and nationwide, presents evidence about the potential of distance learning and barriers to its expansion, and then proposes a State policy on distance learning and methods for its implementation.

The meaning of "distance learning"

Various types of distance learning exist, including the traditional form of correspondence instruction. For the purposes of this project, *distance learning* means instruction in which the student and instructor are separated by distance and interact through the assistance of computer and communications technology. Distance learning may also include

video or audio instruction in which the primary mode of communication between student and instructor is through a communications medium such as instructional television, video, or telecourses, and any other instruction that relies on computer or communications technology to reach students at distant locations.

Within the context of this definition, distance learning is typically delivered through three alternatives:

- By satellite and broadcast television, which allows programs to be delivered throughout the state, nation, or world;
- By instructional television fixed service (ITFS) within regions of a state. ITFS utilizes microwave technology to deliver televised instruction to sites within a 30- to 50-mile range; or
- By cable television or public/private switched networks, which link together various schools, colleges, and homes (California Technology Project, 1990, p. 4-6).

A 1989 report from the federal Office of Technology Assessment titled *Linking for Learning: A New Course for Education*, reviewed distance learning on the national level, and offered these findings:

- Distance learning is changing educational boundaries that have traditionally been defined by location and by institution. Using distance learning technology, classrooms can now extend to students in other schools, in other cities, in other states, and in other nations. A high school course in advanced mathematics may be taught by a university professor in a live, interactive situation linking high school students in inner-city areas of Los Angeles, Boston, Detroit, and rural areas of California.
- On the K-12 level, providing educational services for the geographically isolated schools and for underserved or advanced students has been the principal application of distance learning. More recently, it is being viewed as a means of solving other educational deficiencies, including inadequacies in faculty and staff development, parental involvement, and cultural relations.
- The recent expansion of distance learning has provided a unique opportunity for collaboration and resource sharing by educators from various institutional, instructional, and geographic locations. Joint activities by representatives from public schools, higher education, and the private sector, have multiplied significantly during the past five years, seeking to use distance learning as a means to respond to the need for improved educational services.
- There is no single best model of distance learning. The technology is flexible and offers multiple ways to deliver instruction over a distance. The quality and effectiveness of distance learning are determined by the quality of the educational program being transmitted and the selection of the appropriate technologies to transmit the instruction.
- Research on the effectiveness of distance learning has consistently concluded that, when used in business, military training, and adult learning, no significant difference exists in effectiveness between traditional instruction methods and distance learning (Moore, 1989). Student attitudes are generally positive. While favorable anecdotal evidence has been gathered, the research on distance learning in the K-12 setting is not conclusive, as few long-term evaluations have been conducted.

California distance learning projects

A comprehensive inventory of distance learning networks and programs in California has been compiled by the California Technology Project Distance Learning Task Force in its report, *Distance Learning for California Schools: A Resource Guide On Live Interactive Televised Instruction (1990)*. Some of the most important projects operating in California are these:

- The Los Angeles County Office of Education has established, during the past two years, the Educational Telecommunications Network (ETN), utilizing satellite technology to telecast live, interactive staff development to school districts in 35 counties in California.
- The Los Angeles Unified School District operates a broadcast television station -- KLCS -- including a "Homework Hotline" allowing students to receive on-air tutoring after school.

- California State University, Chico, (CSUC) offers regular university courses, including a master's degree program in computer science, by televised instruction by satellite to students in 15 states. CSUC also offers programming for K-12 students and teachers, including a first-year teacher training program called "Partners."

- California State University, Sacramento (CSUS), has established a computer-based Learning Solutions Network (LSN) that currently reaches 4,500 students at 30 public schools in California. The program targets current and potential high school dropouts, offering courses in basic reading, mathematics, study skills, critical thinking, and typing. The course work is developed by the University of Illinois in Urbana. The satellite dishes of CSUS capture the coursework, and the secondary schools use their computers and telephone lines to access the information that CSUS retrieves. District Superintendent Anthony Truijillo, of the Sweetwater Union High School District -- one of the districts utilizing LSN -- reports that "we're making a huge dent in the dropout problem at a fraction of the cost of traditional programming. Many of our students go on to get a college education. All of them go away with better skills and higher self-esteem."

- Several State University campuses offer university credit courses to advanced high school students, using satellite and microwave technology. For example, California State Polytechnic University, Pomona, offers live televised university courses to high school students in 245 schools in the Los Angeles area. California State University, Sacramento, has a close tie with the California State Department of Education, and they cooperatively produce various educational special events and teleconferences. And California State University, Bakersfield, has established a pilot program with Tehachapi High School using compressed video over a high capacity telephone linkage cable to transmit two-way video between the campus and students and teachers at the rural school. The California State University system has a microwave network connecting four of its campuses in northern and central California, with the system managed from its Chico campus.

- Forty-two southern California colleges, representing 26 community college districts, have established a consortium to develop, distribute, and acquire college credit telecommunications-based instructional materials. More than 27,000 students enrolled in consortium courses during the 1989-90 academic year, with each course typically including an integrated learning package consisting of 26 video lessons, a textbook, study guide, exam bank, faculty manual, and an on-campus instructor. The courses are distributed through a multi-faceted network, including Public Broadcasting (PBS) and commercial television stations, cable, ITFS and satellite systems.

- The University of California, Irvine, is linked to the Irvine cable television system, providing a means for two-way transmission of video between schools. Occasionally, this linkage is used to deliver teacher training and student enrichment services to the schools.

- Stanford University has been a national pioneer in the use of telecommunications for off-campus delivery of engineering programs. It uses microwave and ITFS systems in the Bay Area and satellite distribution to reach sites throughout the country.

National distance learning projects

Federal support for comprehensive distance learning projects has been provided through the Star Schools Program, established in 1987 to address "two critical needs in the rebuilding of our educational system to meet domestic and international challenges. The nation's students must have access to basic and advanced courses in mathematics, science, and foreign languages, and these courses must be of the highest quality." (U.S. Senate Committee on Labor and Human Resources, 1987, page 1.) The program is designed to create multistate partnerships to write and deliver both core and enrichment curriculum and to provide instruction for disadvantaged students. The program is authorized for a five-year period, with a funding limit of $100 million.

The first round of two-year grants went to four projects: (1) Satellite Educational Resources Consortium (SERC); (2) TI-IN United Star Network; (3) the Midlands Consortium; and (4) Technical Education Research Centers (TERC). Summary information about these projects is provided in Display 1 above.

DISPLAY 1 Basic Facts and Figures for the Star Schools Projects

Name	Organizational partners	Primary technology used	Grant amounts FY 1989/ FY 1990	Number of States involved	Number of schools	Number of students
Satellite Educational Resources Consortium	19 States, each represented by the State education agency and the State educational television authority: AL, AR, FL, GA, IA, KY, LA, MS, NE, NJ, NC, ND, OH, PA, SC, TX, VA, WV, and WI; and 4 cities (associate members): Cleveland, Detroit, Kansas City, and New York	Satellite-based transmission; one-way video, two-way audio; C/Ku-band satellite dishes, steerable; unscrambled signal	$ 5.6 million/ $4.10 million	23[a]	312[b]	3,300 (est.)
TI-IN United Star Network (TI-IN USN)	3 State education agencies: NC, TX, and IL; 4 universities: Western Illinois, Alabama-Tuscaloosa, Mississippi State, California State-Chico; the Region 20 Educational Service Center (Texas); and TI-IN, Inc.	Satellite-based transmission; one-way video, two-way audio; Ku-band satellite dishes, mostly fixed, some steerable; scrambled signal	$ 5.6 million/ $4.13 million	10[c]	328[d]	3,200[e]
The Midlands Consortium	5 universities: Alabama-Birmingham, Kansas, Kansas State, Oklahoma, Mississippi; and the Missouri School Boards Association	Satellite-based transmission; one-way video, two-way audio; C/Ku-band satellite dishes, steerable; unscrambled signal	$ 5.5 million/ $4.14 million	5	278[d]	2,500[e]
Technical Education Research Centers	Boston Museum of Science; the Northwest Regional Lab; Minnesota Educational Computing Consortium; City College of New York; Biological Sciences Curriculum Study; and 5 universities: Tufts, Virginia, Michigan, Pepperdine, and Arizona State	Computers connected via commercial computer network	$2.4 million/ $2.04 million	18[f]	447[g]	18,000

[a]19 States, plus school districts from the 4 cities involved as associate members.
[b]Schools participating through fiscal year 1989 funds only. An additional 121 schools are receiving teacher inservice and student seminars only.
[c]The number of States with 4 or more sites. There are 12 other States where TI-IN USN has 1-3 schools. Most of these schools are Bureau of Indian Affairs (BIA) schools whose TI-IN USN activities are being coordinated through BIA.
[d]Schools that are or will be participating through fiscal year 1989 and fiscal year 1990 funds.
[e]In addition to these students, other students at non-Star Schools sites will take classes developed with Star Schools money.
[f]The number of States with 4 or more sites.
[g]Schools participating in school year 1989-90 only.
SOURCE: Office of Technology Assessment, 1989, based on information provided by the Star Schools projects and the U.S. Department of Education.

Source: Congress of the United States, 1989, p. 138.

With the exception of the involvement in TI-IN by California State University, Chico, California students have not received direct benefit from those projects.

The second round of Star School Grants was announced recently by the U.S. Department of Education, with $14.8 million awarded to four new partnerships:

- Telecommunications Education for Advances in Mathematics and Science Education (teams) will be directed by the Los Angeles County Office of Education and include four public school districts -- Los Angeles, Washington, D.C., Detroit, and Boston. With $3,450,000 in funding, the project will develop programs dealing with multicultural mathematics, problem solving in grades 7-10, science and technology experiences for grades 4-5, student-to-student teleconferences in grades 7-12, and career exploration for grades 7-12 in mathematics and science.
- The Pacific Northwest Educational Telecommunications Partnership will provide education to students in Alaska, Idaho, Montana, Oregon, and Washington, as well as in the Pacific Rim Territories. With $5,050,000 in funding for 1990-91, the project will emphasize the provision of science, mathematics, Japanese and other foreign language instruction to low-income and migrant students.
- Central Education Telecommunications Consortium will be administered by the Black College Satellite Network (BCSN). Working partnerships will be developed between historically Black colleges, the District of Columbia school district, and other predominantly Black school districts. With a grant of $1,400,000, teachers will receive train-

ing in science and mathematics instruction, as well as in the Chinese, Swahili, and Arabic languages.

- "Reach for the Stars" is directed by the Massachusetts Corporation for Educational Telecommunication (MCET) with 20 participating organizations including four state departments of education. The $4,913,000 grant will be used to develop science experiences for middle school students and will focus on community-wide science resources such as museums.

A second major source of funding for national distance learning projects is the Annenberg/SPB Project, which provided $1.8 to seven projects under its new three-year initiative, "New Pathways to a Degree: Using Technologies to Open the College." The seven new projects will include 27 colleges and universities in Indiana, Maine, Minnesota, New York, Oregon, Virginia, and West Virginia, and they will serve approximately 10,000 students in 1993. The seven projects are:

- The Oregon State System of Higher Education will develop a model for how colleges can offer complete baccalaureate degree programs via Oregon Ed-Net, the statewide educational network. Participating institutions will offer undergraduate programs in agricultural business management, liberal studies, and nursing. Ed-Net will connect hundreds of public schools, libraries, and colleges using satellite, two-way audio and video communications, fiber optics, and computers. Innovative ways for providing special student services will be developed.

- Indiana University/Purdue University at Indianapolis (IUPUI) is developing a model for how urban universities can provide access and community support for minority students. IUPUI will focus on core liberal arts courses and will use cable television, networked computers and facsimile machines to reach students at local community and education centers, churches, and a vocational technical college.

- The University of Maine at Augusta, on behalf of the Community College of Maine, will build on its current system that links all public higher education institutions with off-campus sites. The university will offer a coherent sequence of courses for an Associate of Arts degree and an Associate of Science degree, utilizing videodiscs, computer instruction, and computer conferencing to enrich the curriculum. The associate degree will be accepted for transfer to four-year programs at all public universities in Maine. A model training program for faculty, student support staff, and technical staff also will be implemented.

- The College of St. Catherine in St. Paul is serving as a model for how colleges -- particularly those that offer weekend degree programs -- can use technology to remove educational barriers and meet the needs of the adult student with career and family responsibilities. Electronic mail, computer conferencing, video and audiocassettes, and facsimile machines will link students in their homes, businesses, or through nearby libraries, campuses, or other community facilities. Core liberal studies courses and some upper-division courses toward the Information Management degree will be offered.

- Rochester Institute of Technology in Rochester, New York, is developing an affordable model for using technology to offer highly accessible upper-division courses. The program will use interactive technologies, such as audiographic and computer conferencing, picture phones, and on-line library services to develop 40 upper-division courses from which students can structure degree programs in applied arts and sciences. The campus will be linked electronically to remote sites 100 or more miles from the campus, and the courses will use videotaped lectures to allow students to choose where and when they study.

- Northern Virginia Community College in Annandale, Virginia, will use public television, cable, computer conferencing, two-way compressed video, audio conferencing, voice mail, and videocassettes to offer complete associate degrees in General Studies and Business Administration. The degrees are intended for students who plan to pursue a baccalaureate degree at a four-year institution.

- West Virginia University in Morgantown will work with a statewide coalition to offer general studies and business management courses to rural adults. In cooperation with West Virginia's higher education system, educational broadcasting authority, library commission, and satellite delivery network, the University will use satellite video, facsimile, and electronic mail to serve

rural learners in their homes, at the 16 public higher education institutions, and in public libraries, public schools, businesses, and county extension offices (Western Cooperative for Educational Telecommunications, 1990, pp. 19-20).

A new national project has been initiated by Hughes Aircraft designed to use satellite technology to improve the quality of America's elementary education. The "Galaxy Classroom" is being planned to offer interactive mathematics, science, English, and language arts instruction to K-5 students in urban and rural locations in various parts of the country. The objective of the program is to "improve academic achievement among children who come from diverse backgrounds, to promote educational excellence by developing sound content, and to motivate children by promoting an enjoyment of learning, self-esteem, and responsibility" (Hezel, 1991, p. 1). The Galaxy Classroom will begin to provide instruction in 1993.

Developments in statewide planning for distance learning

Through SB 1202, the Legislature declared that "California has no formal state policy on the use of distance learning" and "consequently, no policies are in place for the appropriation of funding, coordination among service providers and users, or guidelines for faculty and administration." In its recent report on *Distance Learning for California Schools*, the California Technology Project concluded that while distance learning is being employed in several locales within California, "its use is not widespread, consistent, or coordinated" (p. 6).

California is far behind other states in statewide planning and policy development for distance learning. As a result, the benefits of distance learning are not being shared equitably across the State, the resources are not being used as efficiently as they might be, the potential of distance learning technologies to meet broader school and college reform goals is not being maximized, and outmoded statutes and policies block the full utilization of the new technologies.

In addition, compared to many other states, California has made only a limited commitment to developing and utilizing distance learning delivery systems. As Display 2 demonstrates, California is far behind many less wealthy states in providing financial resources for planning and implementation.

Hawaii, North Carolina, Maine, Nebraska, and Arizona offer illustrations of planning efforts by other states, and the coordinated use of distance learning to meet educational goals:

- In Hawaii, the State Legislature appropriated $590,000 over two years (Fiscal Years 1987-88 and 1988-89) for the development of a Distance Learning Technology Plan. The plan was prepared cooperatively by the Department of Labor and Industrial Relations, the Department of Education, and the University of Hawaii, because of their common concerns for education serving statewide employment priorities.
- North Carolina has developed a statewide plan to use satellite downlinks as a means of equalizing educational opportunities across the state. In 1987, the General Assembly of North Carolina directed that:

DISPLAY 2 Appropriations by Selected States for Statewide Planning and Development of a Distance Learning Telecommunications Network

State	Appropriations for Planning	Appropriations for Implementation
Arizona	$80,000	$300,000 requested for FY 91-92
Hawaii	590,000	2,500,000
		$935,000 (to upgrade system)
Maine	$150,000	5,500,000
Montana	$200,000	300,000
North Dakota	$150,000	
Oregon	$280,000	$7,900,000
Texas	$114,000	$2,000,000
Wisconsin	$1,600,000	3,200,000
California	$15,000	$0

Source: Western Cooperative for Educational Telecommunications.

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a. It is the continuing intent of the General Assembly that every child in the state's public school system shall have equal access to educational opportunities, no matter where the child lives or how small the school which the child attends. It is the further intent of the Assembly to encourage and subsidize state-of-the-art technology as an efficient and cost-effective means of making equal access to opportunity available to all children.

b. The State Board of Education shall establish one satellite earth station at the 54 smallest and most rural schools in the state, to insure that students in these schools have full access to all courses required in the Basic Education Program that small enrollment or lack of qualified teachers would otherwise make unavailable.

In fiscal year 1987-88, North Carolina's General Assembly appropriated approximately $2 million to purchase satellite receiver equipment and hardware for 153 sites in the state. The following year $1 million was appropriated for programming and staff support.

- Maine has used distance learning technology to develop a statewide community college system. Through a two-year planning effort, a telecommunications delivery system was developed to provide the transmission statewide of an associate degree program in general studies, linking all existing public high schools, university campuses, and numerous off-campus centers. Funding for the effort came from Federal Higher Education Act Title III grants and a $2.2 million state general fund appropriation.

- During 1990, Nebraska established NEB*SAT, an integrated education satellite and fiber optic network, with Nebraska becoming the first state to lease a full-time satellite transponder for educational and public service purposes. The network will initially focus on broadcasting vocational training programs and telecourses throughout the state.

- Arizona established an Educational Telecommunications Cooperative in 1987, as a consortium of representatives from universities, community colleges, and elementary and secondary education, to review technology initiatives and study the feasibility of a statewide network. Based upon the work of the Cooperative, in 1990, Arizona began the establishment of a statewide, multi-level Technology-Integrated Educational Delivery Service (TIEDS). The objectives of this statewide system are to respond to the issues of equality of access and the needs of life-long learners. The system will use microwave links and ITFS systems through the main corridors of the state and the implementation of a satellite transponder to reach remote areas.

In *Linking for Learning*, the federal Office of Technology Assessment reports, "Distance learning is expanding. Less than four years ago, fewer than 10 states were investing in distance learning. By 1988, two-thirds of the states reported some interest or effort in distance learning, and by 1990 all states report some interest. A national survey of representative K-12 school districts indicated that 33 percent expected some use of distance learning resources by 1990."

Planning efforts in California

Several important efforts have recently been initiated in California to improve the integration of technology and education. While planning for distance learning is only a part of most of these efforts, they have the potential to contribute to a comprehensive and coordinated effort to use distance learning technology if they work together in a collaborative fashion.

- California initiated comprehensive planning on educational technology in September 1990 with the establishment of the California Planning Commission for Educational Technology. That commission is directed to prepare a State master plan to guide the use and integration of educational technology in the public elementary, secondary, and postsecondary schools, and one part of this planning effort will presumably include distance learning. The plan is scheduled for submission to the Legislature, Governor, and educational institutions prior to January 1, 1992. The Commission is operating on an extremely small budget given its statutorily mandated responsibilities and time deadline. State General Fund support for the Commission in fiscal year 1990-91

is $15,000, with a $52,000 contribution from the private corporate sector.

- In a parallel effort, Superintendent of Public Instruction Bill Honig established an Advisory Committee on Information Technology, with the responsibility of providing recommendations on the potential uses of communication technology in California's public schools. The 28-member committee, including two representatives from higher education, will develop a strategic plan prior to August 31, 1991, to be used by the Superintendent to improve the use of information technology in the schools, including the use of television for inservice training of teachers, classroom instruction of students, telemeetings, and teleconferences.

- The Chancellor of the California State University established a Commission on Instructional Technology, which recommended in its report, *The Student, The Faculty, and the Information Age: The Power of Technology:*

  > The CSU should actively support existing and encourage future campus efforts to develop telecommunications delivery systems designed to provide for intercampus or system-wide interaction amongst faculty, students, and staff, and in particular to serve non-traditional students/distance learners (e.g., professional educators in the K-12 system, corporate and other professionals in the workplace, and agriculture and economic development endeavors).

- The California Technology Project, which is funded by the California Educational Technology Local Assistance Program, has established a Distance Learning Task Force. This 24-member task force, with membership from public schools, colleges and universities in California, has generated a useful resource guide on live interactive televised instruction and the following recommendations that California should:

  > Use distance learning technology to provide on-site teacher education courses offered by schools of education.
  >
  > Use distance learning resources to provide courses that are hard to staff or that only a few students are qualified to take.
  >
  > Designate or establish an organization to coordinate distance learning activities within the State of California.
  >
  > Identify and help eliminate legal and policy obstructions to the use of distance learning.

- A California Distance Learning Summit was held on May 10-11, 1990, sponsored by the California Technology Project and the Regional Educational Television Advisory Council (RETAC). The purpose of the summit was to bring together educators involved in televised distance learning at all education levels and to "formulate a unified statewide strategy to implement distance learning in the state" (California Technology Project and the Regional Educational Television Advisory Council, 1990, p. 1). A second summit meeting will be held in May 1991 to continue the discussions initiated at the first meeting.

- Several California campuses and institutions, including the California Postsecondary Education Commission, have joined the Western Interstate Commission for Higher Education (WICHE) Western Cooperative for Educational Telecommunications -- a multi-state planning effort that is still in the developmental stage. The cooperative includes 100 member institutions from 15 western states that plan to share resources and cooperatively plan and deliver programs in the area of educational telecommunications.

- In 1986, the California Learning Network (CLN) was established as an educational telecommunications network involving the cooperative efforts of the California State University's statewide office, the California Department of Education, the Far West Laboratory for Research and Development, and public school districts. The CLN developed a three-year plan "to promote and assist with the development of a statewide distance learning technologies network in which every K-12 student, teacher, and staff member in California can access CLN and other educational programming." A three-year, $10-million budget was proposed to support the network. However, the educational institutions were not successful in securing the funding needed for the project, and consequently CLN did not move beyond the initial pilot phase.

- To assist in the development of the distance learning policy statement requested by SB 1202,

the California Postsecondary Education Commission has established an advisory committee with representatives from public schools, colleges, and universities, and with overlapping membership with the various planning activities identified above. The members of the advisory committee are:

Charles Binderup, Superintendent
Tulelake Basic Joint Unified School District

Craig Blurton, Project Director
California Technology Project

Phil Cartwright, Professor of Education
University of California, Davis

Patricia Cuocco, Manager
Telecommunications and Media Services
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The Wyman Group

The potential for distance learning

In his recent review of state planning efforts for telecommunications in education, Richard Hezel concluded that many states "are using budget deficits as a justification for developing educational telecommunications projects. The rationale is that shared telecommunications systems can deliver scarce yet needed instructional programs less expensively than a live, in-person, traveling teacher, if such a teacher is even available to teach the courses" (1990, p. 5). Experiences throughout the country with distance learning have clearly demonstrated that these new technologies provide an effective means to respond to several important educational needs within California. Among the most obvious are:

1. *The potential to provide every secondary school student the opportunity to receive quality instruction in every required and appropriate college preparatory course.*

The success of Oklahoma State University in providing satellite telecourses in physics and German to high schools across that and neighboring states demonstrates the benefits of cooperative university-school partnerships. The technology is "imminently appealing to small districts who had been unable to provide advanced science, math, or foreign language courses where enrollment numbers were too low to justify the hiring of a teacher. In other cases, a part-time teacher certified in the instructional area was simply not available. A third problem incurred by some districts was the inability to find a multiple-certified teacher who matched the instructional needs of the district" (Hobbs and Osburn, p. 6).

2. *The potential to respond effectively to the needs of the private sector for a well trained work force.*

California State University, Chico, and the National Technological University utilize satellite technology to deliver live, interactive courses and degree programs in engineering and computer science to corporate sites throughout the country.

3. *The potential to expand access to all regions and populations throughout the state, without the need to build a campus or off-campus center in each location.*

The establishment of a community college system in Maine through the development of a telecommunications system linking the existing college and school sites has created electronic classrooms with interactive postsecondary courses for students in rural areas across the state. This model has great potential for California for accommodating at least some of the growth in higher education expected during the coming decade.

4. *The potential to overcome field-specific teacher shortages.*

Like most states, California has a shortage of qualified secondary school teachers in subject areas such as foreign languages, advanced mathematics and science. The technology now allows teachers to be shared among schools, as the classrooms are linked electronically. A recent national report stated that 38 percent of the states now offer foreign language instruction via technology, as one solution to the teacher shortage problem (U.S. Congress, 1989, p. 90).

5. *The potential to provide bilingual, literacy, and citizenship instruction to the large population throughout the state in need of such instruction.*

The approximately 2 million people in California who will be gaining permanent residency in the state under the provisions of the federal Immigration Reform and Control Act (IRCA) will join the large pool of California residents who need adult education services in English as a Second Language and work-force literacy. These education programs currently have a funding cap in both the K-12 and community college systems.

6. *The potential to provide teachers and school administrators with a full range of professional development opportunities regardless of their geographic location within the state.*

Several states have initiated large-scale efforts to make professional development and teacher training services available statewide through distance learning technologies, with the programs scheduled to meet the needs and time schedules of teachers and administrators.

The effectiveness of distance learning

A review of the literature on the effectiveness of distance learning indicates that it is as effective as on-site, face-to-face instruction in the classroom. Thus far, most of the utilization of distance learning has been with academically advanced high school students and independent adult learners -- individuals who tend to possess strong study skills, high motivation, and discipline. Initial studies of the effectiveness of distance learning working with young or academically weak students have indicated the technology is also effective with this population.

Based upon the current research literature, the following additional conclusions can be made:

1. Adult distance education is cost-effective when compared to traditional methods of instructional delivery, saving on travel and employee time (U.S. Congress, 1989, p.11).
2. Interactive distance education is academically equal to conventional classroom education and is an effective mode of education (Clark and Verdiun, p. 25; Lienau, p. 138).
3. Distance learning is as effective, if not more effective, than learning in traditional classrooms in remote schools. While it is more cost-effective to put a regular teacher in the classroom than it is to teach a class over a distance learning system, in most of the small rural schools teachers with the expertise to teach the specialized sub-

ject are usually not available (Ellertson, pages 7-8).

4. Individuals participating in distance learning situations report positive benefits resulting from exposure to a greater range of ideas, peers, and teachers, and the need to take a greater responsibility for their learning. They also report that distance learning is harder, as it is more difficult to raise questions and obtain help during class time (Cookson, p. 25).

5. A key factor in promoting the effectiveness of distance learning is the coordinator at the distance learning receiving site, working with students as a facilitator in the learning process (Hobbs and Osburn, p. 96).

6. Interactive distance learning is most effective when teachers give more attention to advanced preparation, visual materials, activities for independent study, student interaction, and follow-up activities (U.S. Congress, 1989, p. 12).

Barriers to the expanded use of distance learning in California

While the educational and economic value of distance learning has been demonstrated nationwide, several barriers must be overcome before distance learning technologies will experience widespread use in California. These barriers include the following:

1. *The State lacks a funding base for the acquisition, maintenance, and upgrading of the technological infrastructure necessary for a distance learning system.*

Funding is provided on an ad hoc, limited basis, without providing schools, colleges, and universities any basis for long-range planning on the acquisition of the needed technology. While the Department of Finance has agreed with the California State University and the University of California on a funding formula for computer work stations, no such formula has been agreed upon for other forms of technology assisted learning, such as ITFS, satellite, or fiber optic based learning networks.

2. *The State lacks a funding incentive structure that encourages educational institutions to cooperatively develop high quality, interactive educational programming.*

Some of California's educational institutions have worked together on an ad hoc basis to develop educational programs for distance learning delivery. These cooperative efforts will remain limited, however, until the State implements a funding structure that encourages institutions to share their resources to develop instructional programs that respond to specific statewide educational needs -- such as English or foreign language instruction -- and that are particularly suited for distance learning delivery. Several states have allocated funds for five years of start-up costs, with the institutions expected to implement a self-supported system after that time. Thus far, however, California's schools, colleges, and universities have lacked incentives to work together either on a statewide basis or within various regions of the State in the development of an integrated distance learning system.

3. *Teachers and faculty lack training on the uses of technology and distance learning activities.*

In order for distance learning to be implemented successfully, teachers must be trained in the most effective use of the medium. For some teachers, technology is viewed as a threat, while others are receptive to utilizing the technology but lack the necessary skills. More extensive teacher training and in-service programs are necessary to assist the faculty in gaining the necessary skills and comfort level to support the expanded use of distance learning.

4. *Articulation agreements between higher education institutions frequently do not recognize courses in which a significant portion of the instruction is delivered through an interactive or non-interactive electronic technology, such as television.*

This practice inhibits colleges from expanding their use of distance learning technology, particularly when the mode of instruction becomes the determinant of the acceptability of course credits for trans-

fer. The regional accreditation standards and practices utilized in California have also had a similar effect. Distance learning will expand when the course content is the sole determinant of articulation agreements, and the mode of instruction (i.e., small class seminars, large class lectures, and television) is not used to label courses or as a determinant of course quality.

5. *Faculty face a disincentive for teaching courses offered through a distance learning delivery mode.*

To be effective in these teaching situations, faculty must dedicate more preparation time, be well organized and provide additional assistance to the independent learners. However, most institutions do not provide faculty release time for this preparation, and the faculty retention, tenure, and promotion process gives no recognition to this type of involvement by a faculty member.

6. *No financial incentives exist for institutions to look to technology as a means of providing educational services to California residents, rather than constructing buildings and establishing new campuses and off-campus centers.*

California State University, Chico, has a financial incentive to offer electronically delivered programs in computer science and engineering to residents of Tennessee, because a private corporation will pay for it. However, in California the State budgeting process tends to encourage building more classrooms as a response to enrollment growth and labor force needs, rather than delivering existing instructional programs electronically into other existing buildings in different regions of the State.

Proposed Policy and Its Implementation

A proposed policy statement on distance learning

California should adopt a policy on distance learning that will facilitate expanded use of distance learning technologies through a cooperative, interinstitutional approach that is responsive to the major educational needs within the State. This policy statement should include the following principles:

1. **Distance learning shall be utilized by the State to achieve its goals for education -- equity, quality, efficiency, diversity, and accountability.**

   - **Equity in education requires that all students in California's public schools and all adults in the State have equal access to educational opportunities, regardless of their income level, where they live, or the size of the school they attend. Distance learning technology is an efficient and cost-effective means to make access opportunities available more equally throughout the State and to individuals from all socio-economic groups.**

   - **Quality in education will be enhanced through the creative application of telecommunications, as students are given the opportunity to interact with students from other cultures and geographical locations, and with outstanding educators from other institutions.**

   - **Diversity among California's educational institutions has been recognized in California through the support of various types of public institutions as well as independent and private colleges and universities. Distance learning technology provides an opportunity for greater diversity in the means of instruction and in the delivery of educational and training services to an adult population that is more and more likely to seek additional education outside the traditional baccalaureate program designed for four consecutive years on a full-time basis shortly after graduating from high school.**

   - **Efficiency and accountability are increasingly emphasized as goals for education, as the State budget resources become increasingly restricted. Distance learning technologies can only be effective through cooperative efforts of individuals from various institutions, and this collaboration has the potential to reduce costs and increase efficiency. A technology integrated educational delivery system will allow (1) the electronic transmittal of files and reports, which will provide the information needed for accountability more rapidly and at less cost, and (2) video teleconferencing for State and local education and governmental agencies, thereby diminishing travel requirements (Jonsen and Johnstone, p. 42-43).**

2. **A coordinated distance learning system shall be developed to serve the following high priority educational needs in California:**

   - **Enhanced workforce skills and competency in the adult population.**

   - **Curriculum enhancement to meet the needs of high-risk pupils who would otherwise be likely to drop out of traditional classroom programs.**

   - **Expanded course offerings in subjects that include, but are not limited to, foreign languages, science, and mathematics to rural and inner-city secondary schools that are unable to provide the college pre-**

paratory and enrichment courses that their pupils require and that other schools provide.

- Expanded course offerings at rural community colleges and off-campus centers to better serve students in remote parts of the State. These expanded offerings should include university-level courses to better serve community college students who are considering a university-level education but do not have the financial resources to transfer.

- Staff development courses for elementary and secondary school teachers who might otherwise be unable to participate in these training opportunities.

- Curriculum enhancement through the increased communication capability of schools, colleges, and universities providing the opportunity for institutions to receive varied types of supplementary educational programs; conduct exchanges with business, industry, and government; participate in live lectures and conferences on special topics; and increase cooperation and communication among educational institutions.

3. The State shall encourage the use of multiple technologies in distance learning education, including microwave, satellite, and public/private switched network delivery systems. Priority should be placed on making the several delivery systems interconnected, while providing full opportunity for educators to experiment with all of the alternative distance learning technologies.

4. In expanding the use of distance learning technology, the State shall place an emphasis on three components: service, ease of access, and lower cost. Through a service mode, the integrated distance learning system shall emphasize the delivery of education and training services to populations currently not receiving these services. Ease of access means institutions shall be able to participate in the system with minimal difficulty. Lower cost means that the long-run costs of providing the distance learning instruction shall be lower than providing the instruction live at that site.

5. The State shall provide incentives for institutions to expand their utilization of distance learning technologies, rather than prescribing or mandating institutional actions.

6. The State shall provide that the standards for course and program quality applied to distance learning education will be the same standards as are applied to traditional classroom instruction at our public educational institutions currently. The course content, student achievement levels, and the coherence of the curriculum shall be reviewed through the same standards and criteria for both distance learning education and on-campus instruction.

7. The State should encourage collaboration between the private sector and the educational institutions in the use of technology, both to enhance the quality of education in the classroom and to expand the delivery of educational services to the work site.

Recommended steps to implement the policy

The primary conclusion of this report is that California should establish a coordinated statewide technology integrated distance learning system based on the seven principles stated above. To implement this system, the Commission recommends that:

1. Legislation should be introduced in 1991 to enact into statute a policy statement on distance learning technology, with the statement to include at least the seven principles presented above.

2. As the 1992-93 State Budget is being developed, consideration should be given to providing incentive funding for schools, col-

leges, universities and private business and industry to develop and implement collaborative projects designed to use distance learning technology as a means of delivering educational services in the areas identified above.

3. California's public postsecondary institutions should begin negotiations with the Department of Finance and the Legislature to develop a process to provide a long-term, relatively stable funding base for establishing the technology infrastructure needed to utilize distance learning on a statewide basis.

4. The California Planning Commission for Educational Technology should consider and offer recommendations on various options for the State to pursue in expanding the use of technology in education, including but not limited to the desirability of California leasing a full-time satellite transponder for educational and public service purposes. The Commission should provide a full cost-benefit analysis of each of the options considered.

5. The staff of the California Postsecondary Education Commission should convene a Distance Learning Coordinating Committee, under the auspices of the Commission's Statutory Advisory Committee, to coordinate existing planning efforts in the various educational institutions, develop a process to establish and operate a schedule of program activities, develop and maintain a comprehensive inventory of distance learning programming, expand collaborative private-public sector efforts, and assist the Commission in developing a workable strategic plan for the establishment of a statewide distance learning delivery system. This coordinating committee should operate until the California Planning Commission on Educational Technology presents its final recommendations, at which time the need for the coordinating committee should be reassessed.

Appendix Senate Bill 1202 (1989)

Senate Bill No. 1202

CHAPTER 1038

An act to add Chapter 14 (commencing with Section 11300) to Part 7 of the Education Code, relating to education.

[Approved by Governor September 29, 1989. Filed with Secretary of State September 29, 1989.]

LEGISLATIVE COUNSEL'S DIGEST

SB 1202, Hart. California Distance Learning Policy.

Existing law, which became inoperative on June 30, 1989, established the Educational Technology Local Assistance Program which was authorized to award various types of grants for certain specified purposes to school districts, county offices of education, sponsors of regional occupational programs, public postsecondary educational institutions, individual teachers, and teacher education and computer centers meeting the eligibility criteria.

This bill would require the California Postsecondary Education Commission to develop a state policy on the use of distance learning technology, as defined, in education, to be considered and, if appropriate, adopted by the Legislature. This bill would require the commission, in developing the policy, to address specified issues and to compile research on the effectiveness and cost-effectiveness of distance education at various levels of education. The bill would require that the policy be developed to recognize the several existing distance learning networks, to enhance their coordination and direction, and to provide statewide incentives to build partnerships that further distance learning, as specified. The bill would require the commission, in developing the policy, (1) to propose a strategy to provide the 5 types of educational services of curriculum enhancement, expanded course offerings to rural and inner-city secondary schools, expanded course offerings at rural community colleges and off-campus centers, staff development courses for elementary and secondary teachers, and curriculum enhancement through the increased communication capability of schools, colleges, and universities and (2) to draw upon the experience and findings of the various campuses of the California State University that currently offer courses via distance education.

The bill also would require the commission, in developing the policy, to identify existing sources of interactive distance learning instructional and staff development programming that can be utilized immediately by schools and colleges and to propose a strategy to utilize existing technologies to deliver instruction over distance, and link together school and college classrooms in rural and inner-city areas in the state.

The bill would require the commission, in preparing the policy

statement, to consult with an advisory committee having prescribed membership.

The bill would require the policy statement to be submitted to the legislative policy committees and the Governor on or before May 1, 1990.

The bill would state the intent of the Legislature that, following the development of the policy statement, educational institutions consider the preparation of a budget proposal to establish a comprehensive distance learning project within California.

The people of the State of California do enact as follows:

SECTION 1. The Legislature finds and declares as follows:

(a) The instructional technologies provide California with excellent opportunities to accomplish important long-range educational objectives efficiently. These opportunities include all of the following:

(1) Expanded access to higher education for individuals who currently do not participate because of geographical isolation or language barriers.

(2) The development and implementation of an expanded and enriched high school curriculum utilizing faculty members of various schools, colleges, and universities working together through a collaborative effort, particularly for advanced mathematics, science, and language courses that many high schools do not have the resources to offer.

(3) The development and implementation of in-service training programs for teachers and staff at all levels of public education in kindergarten and grades 1 to 12, inclusive, through a partnership utilizing outstanding public school teachers and faculty at colleges and universities.

(4) Meeting the challenges of changing demographics in the pupil population, including the needs for remediation, greater English literacy, and preparedness for postsecondary education.

(b) High school graduates from rural counties are significantly less likely than high school graduates statewide to be eligible for admission to a four-year college or university. A primary reason for the differing rates of eligibility to California's colleges and universities is that many small rural high schools are isolated and do not have enough pupils to support advanced or specialty courses offered by larger or less isolated schools, and some schools are not able to supply the resources or qualified staff necessary to offer courses in certain areas, including, but not limited to, science, foreign language, or mathematics.

(c) The state, in order to meet the educational needs of all of its public school pupils and their teachers, needs to consider the efficiency, impact, and expansion of distance education technology.

"Distance learning," for the purposes of Chapter 14 (commencing

with Section 11300) of Part 7 of the Education Code, means interactive instruction in which the instructor and student are separated by distance yet interact through the aid of computer and communications technology. "Distance learning" may also include, for the purposes of that chapter, video or audio instruction in which the primary mode of communication between instructor and student is through a communications medium such as instructional television or video, and any other instruction that relies on computer or communications technology to reach students at distant locations. California's educational institutions need to combine their efforts to explore the most efficient ways to expand the use of distance learning technologies to reach all pupils and teachers who may benefit from them.

(d) The Commission for the Review of the Master Plan of Higher Education concluded in 1987 that the new instructional technologies have the exciting potential for revolutionizing the educational process. The commission recommended that the governing boards of educational institutions establish appropriate infrastructures in their systems and on their campuses so that the new instructional technologies are effectively integrated in the support of the fundamental institutional missions, and also recommended that the California State University have the principal responsibility for research on the impact of the new technologies on the learning process.

(e) California has no formal state policy on the use of distance learning. Because of this, no policies are in place for the appropriation of funding, coordination among service providers and users, or guidelines for faculty and administration.

SEC. 2. Chapter 14 (commencing with Section 11300) is added to Part 7 of the Education Code, to read:

CHAPTER 14. THE CALIFORNIA DISTANCE LEARNING POLICY

11300. The California Postsecondary Education Commission shall develop a state policy on the use of distance learning technology in education, to be considered and, if appropriate, adopted by the Legislature. Further, in developing the policy, the California Postsecondary Education Commission shall address issues of funding and management of intersegmental distance learning efforts, course credit transfer, qualifications and credentialing of instructors and onsite personnel, ensuing course quality, and other policy issues associated with distance education, as well as, compile research on the effectiveness and cost-effectiveness of distance instruction at various levels of education.

The policy shall be developed to recognize the several existing distance learning networks, to enhance their coordination and direction, and to provide statewide incentives to continue to build partnerships that further distance learning as a cost-effective means

to address resource equity and quality issues in education. In formulation of the policy, the California Postsecondary Education Commission shall specifically draw upon the experience and findings of the various campuses of the California State University that currently offer courses via distance education, including California State University, Bakersfield, California State University, Chico, the California Polytechnic University, Pomona, as well as, draw upon the experience and findings of other current providers of distance education programming.

11301. (a) In developing the policy, the California Postsecondary Education Commission shall propose a strategy to provide, through a cost-effective distance learning delivery system, the following five types of educational services:

(1) Curriculum enhancement to meet the needs of high-risk pupils who would otherwise be likely to drop out of traditional classroom programs.

(2) Expanded course offerings, in subjects that include, but are not limited to, foreign languages, science, and mathematics, to rural and inner-city secondary schools that are unable to provide the college preparatory and enrichment courses that their pupils require and that other schools provide.

(3) Expanded course offerings at rural community colleges and off-campus centers to better serve students in remote parts of the state. These expanded offerings should include university level courses to better serve community college students who are considering a university-level education but do not have the financial resources to transfer.

(4) Staff development courses for elementary and secondary school teachers who might otherwise be unable to participate in these training opportunities.

(5) Curriculum enhancement through the increased communication capability of schools, colleges, and universities providing the opportunity for institutions to receive varied types of supplementary educational programs, conduct exchanges with business, industry, and government, participate in live lectures and conferences on special topics, and increase cooperation and communication among educational institutions.

(b) In developing the policy, the California Postsecondary Education Commission shall identify existing sources of interactive distance learning instructional and staff development programming that can be utilized immediately by schools and colleges, and propose a strategy to utilize existing technologies to deliver instruction over distance, and link together school and college classrooms in rural and inner-city areas in the state.

11302. (a) In preparing the policy statement, the California Postsecondary Education Commission shall consult with an advisory committee composed of representatives from public schools, a county office of education, the State Department of Education, the

California State University, the California Community Colleges, the University of California, the independent accredited universities and colleges, the governing board of a school district, the Educational Technology Committee, and private sector providers of communication networks and programming.

(b) The commission shall submit the policy statement to the legislative policy committees and the Governor on or before May 1, 1990.

(c) Following the development of the policy statement, it is the intent of the Legislature that educational institutions consider the preparation of a budget proposal to establish a comprehensive distance learning project within California.

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CALIFORNIA POSTSECONDARY EDUCATION COMMISSION

THE California Postsecondary Education Commission is a citizen board established in 1974 by the Legislature and Governor to coordinate the efforts of California's colleges and universities and to provide independent, non-partisan policy analysis and recommendations to the Governor and Legislature.

Members of the Commission

The Commission consists of 15 members. Nine represent the general public, with three each appointed for six-year terms by the Governor, the Senate Rules Committee, and the Speaker of the Assembly. The other six represent the major segments of postsecondary education in California.

As of March 1991, the Commissioners representing the general public were:

Lowell J. Paige, El Macero; *Chair;*
Henry Der, San Francisco; *Vice Chair;*
Mim Andelson, Los Angeles;
C. Thomas Dean, Long Beach;
Rosalind K. Goddard, Los Angeles;
Helen Z. Hansen, Long Beach;
Mari-Luci Jaramillo, Emeryville;
Dale F. Shimasaki, San Francisco
Stephen P. Teale, M.D., Modesto.

Representatives of the segments were:

Joseph D. Carrabino, Orange; appointed by the California State Board of Education;

James B. Jamieson, San Luis Obispo; appointed by the Governor from nominees proposed by California's independent colleges and universities

Meredith J. Khachigian, San Clemente; appointed by the Regents of the University of California;

John F. Parkhurst, Folsom; appointed by the Board of Governors of the California Community Colleges;

Theodore J. Saenger, San Francisco; appointed by the Trustees of the California State University; and

Harry Wugalter, Thousand Oaks; appointed by the Council for Private Postsecondary and Vocational Education.

Functions of the Commission

The Commission is charged by the Legislature and Governor to "assure the effective utilization of public postsecondary education resources, thereby eliminating waste and unnecessary duplication, and to promote diversity, innovation, and responsiveness to student and societal needs."

To this end, the Commission conducts independent reviews of matters affecting the 2,600 institutions of postsecondary education in California, including community colleges, four-year colleges, universities, and professional and occupational schools.

As an advisory planning and coordinating body, the Commission does not administer or govern any institutions, nor does it approve, authorize, or accredit any of them. Instead, it cooperates with other State agencies and non-governmental groups that perform these functions, while operating as an independent board with its own staff and its own specific duties of evaluation, coordination, and planning.

Operation of the Commission

The Commission holds regular meetings throughout the year at which it debates and takes action on staff studies and takes positions on proposed legislation affecting education beyond the high school in California. By law, its meetings are open to the public. Requests to speak at a meeting may be made by writing the Commission in advance or by submitting a request before the start of the meeting.

The Commission's day-to-day work is carried out by its staff in Sacramento, under the guidance of its executive director, Kenneth B. O'Brien, who is appointed by the Commission.

The Commission publishes and distributes without charge some 30 to 40 reports each year on major issues confronting California postsecondary education. Recent reports are listed on the back cover.

Further information about the Commission, its meetings, its staff, and its publications may be obtained from the Commission offices at 1020 Twelfth Street, Third Floor, Sacramento, CA 98514-3985; telephone (916) 445-7933.

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STATE POLICY ON TECHNOLOGY FOR DISTANCE LEARNING

California Postsecondary Education Commission Report 91-7

ONE of a series of reports published by the Commission as part of its planning and coordinating responsibilities. Additional copies may be obtained without charge from the Publications Office, California Postsecondary Education Commission, Third Floor, 1020 Twelfth Street, Sacramento, California 95814-3985.

Recent reports of the Commission include:

90-22 Second Progress Report on the Effectiveness of Intersegmental Student Preparation Programs: The Second of Three Reports to the Legislature in Response to Item 6420-0011-001 of the 1988-89 Budget Act (October 1990)

90-23 Student Profiles, 1990: The First in a Series of Annual Factbooks About Student Participation in California Higher Education (October 1990)

90-24 Fiscal Profiles, 1990: The First in a Series of Factbooks About the Financing of California Higher Education (October 1990)

90-25 Public Testimony Regarding Preliminary Draft Regulations to Implement the Private Postsecondary and Vocational Education Reform Act of 1989: A Report in Response to Assembly Bill 1993 (Chapter 1324, Statutes of 1989) (October 1990)

90-26 Legislation Affecting Higher Education During the Second Year of the 1989-90 Session: A Staff Report of the California Postsecondary Education Commission (October 1990)

90-27 Legislative Priorities of the Commission, 1991: A Report of the California Postsecondary Education Commission (December 1990)

90-28 State Budget Priorities of the Commission, 1991: A Report of the California Postsecondary Education Commission (December 1990)

90-29 Shortening Time to the Doctoral Degree: A Report to the Legislature and the University of California in Response to Senate Concurrent Resolution 66 (Resolution Chapter 174, Statutes of 1989) (December 1990)

90-30 Transfer and Articulation in the 1990s: California in the Larger Picture (December 1990)

90-31 Preliminary Draft Regulations for Chapter 3 of Part 59 of the Education Code, Prepared by the California Postsecondary Education Commission for Consideration by the Council for Private Postsecondary and Vocational Education. (December 1990)

90-32 Statement of Reasons for Preliminary Draft Regulations for Chapter 3 of Part 59 of the Education Code, Prepared by the California Postsecondary Education Commission for the Council for Private Postsecondary and Vocational Education. (December 1990)

91-1 Library Space Standards at the California State University: A Report to the Legislature in Response to Supplemental Language to the 1990-91 State Budget (January 1991)

91-2 Progress on the Commission's Study of the California State University's Administration: A Report to the Governor and Legislature in Response to Supplemental Report Language of the 1990 Budget Act (January 1991)

91-3 Analysis of the 1991-92 Governor's Budget: A Staff Report to the California Postsecondary Education Commission (March 1991)

91-4 Composition of the Staff in California's Public Colleges and Universities from 1977 to 1989: The Sixth in the Commission's Series of Biennial Reports on Equal Employment Opportunity in California's Public Colleges and Universities (April 1991)

91-5 Status Report on Human Corps Activities, 1991: The Fourth in a Series of Five Annual Reports to the Legislature in Response to Assembly Bill 1829 (Chapter 1245, Statutes of 1987) (April 1991)

91-6 The State's Reliance on Non-Governmental Accreditation, Part Two: A Report to the Legislature in Response to Assembly Bill 1993 (Chapter 1324, Statutes of 1989) (April 1991)

91-7 State Policy on Technology for Distance Learning: Recommendations to the Legislature and the Governor in Response to Senate Bill 1202 (Chapter 1038, Statutes of 1989) (April 1991)

91-8 The Educational Equity Plan of the California Maritime Academy: A Report to the Legislature in Response to Language in the Supplemental Report of the 1990-91 Budget Act (April 1991)

91-9 The California Maritime Academy and the California State University: A Report to the Legislature and the Department of Finance in Response to Supplemental Report Language of the 1990 Budget Act (April 1991)

91-10 Faculty Salaries in California's Public Universities, 1991-92: A Report to the Legislature and Governor in Response to Senate Concurrent Resolution No. 51 (1965) (April 1991)

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